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H. Bartschi	Head, Programme of Environmental Carcinogens and Host Factors, Division of Environmental Carcinogenesis
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M.M. Crouzier	Programme of Environmental Carcinogens and Host Factors

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MONDAY 28 SEPTEMBER

14.00 Welcoming address - H. Sugano, T. Otani, M. Okada

Opening address - J. Higginson

CHEMISTRY AND FORMATION

Chairman: M. Okada

(14.30) 0-1 MOCHIZUKI, Masataka, Anjo, T., Takeda, K., Suzuki, E., Sekiguchi, N., Huang, G.-H. & Okada, M.

Chemistry and mutagenicity of α -hydroxy nitrosamines

(14.50) 0-2 ROLIER, Peter, Slavin, B.W., Angeles, R.M. & Miller, J.R.

Mass spectral rearrangements of acyclic dialkylnitrosamines:
N-nitrosomethyl-*N*-butylamine and analogs

(15.10) 0-3 MASUT, M., Nose, K., Tanaka, A., Yamakawa, E. & Ohmori, H.

A novel oxidative degradation of *N*-nitrosamine via
electron transfer

(15.30) 0-4 WAINWRIGHT, T., Slack, P.T. & Long, D.E.

NDMA precursors in malt

15.50 COFFEE BREAK

Chairman: G. Eisenbrand

(16.10) 0-5 OISHIMA, Hiroshi, Béhéziat, J.C. & Bartsch, H.

Measurement of endogenous *N*-nitrosation in rats and
humans by monitoring urinary and faecal excretion of
N-nitrosamine acids

(16.30) 0-6 POLLOCK, J.R.A.

Nitrosation products from peptides

(16.50) 0-7 ROPER, Harald, Roper, S., Heyns, K. & Meyer, B.

N-Nitroso sugar amino acids

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TUESDAY 29 SEPTEMBER

CHEMISTRY AND FORMATION (continued)

Chairman: M. Archer

- (09.00) 0-9 CHALLIS, B.C., Fine, D.H., Goff, U., Hoffman, G. & Shuker, D.E.G.
Amine nitration and nitrosation by gaseous NO₂
- (09.20) 0-10 LOEPPKY, Richard N., Tomasik, W., Outram, J.R. & Feicht, A.
Nitrosamine formation from ternary nitrogen compounds
- (09.40) 0-11 MICHELIA, C.J. & Koenke, S.R.
O-Alkylation of nitrosamines: transalkylation of nitrosamines
and formation of electrophilic intermediates
- (10.00) 0-12 KEEFER, L.K. & Hansen, T.J.
Primary amine use and other strategies for preventing
human exposure to *N*-nitroso compounds: application
to cutting fluids

10.20 COFFEE BREAK

ANALYSIS

Chairman: B. Challis

- (10.40) 0-13 BAVIN, P.M.G., Darkin, D.W. & Viney, N.J.
Total nitroso compounds in gastric juice
- (11.00) 0-14 SAUL, R.B., Bruce, W.R. & Archer, H.C.
An analytical method for simple *N*-nitrosamides
- (11.20) 0-15 SIN, N.P., Seaman, S. & Teissier, L.
A rapid and sensitive method for the determination of
nonvolatile *N*-nitroso compounds in foods and some
recent data on the levels of volatile *N*-nitrosamines
in dried foods and malt-based beverages

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- P-8 PIGNATELLI, Brigitte, Béréziat, J.C., O'Neill, I.K. & Bartsch, H.
Catalytic role of some phenolic substances in
endogenous formation of *N*-nitroso compounds
- P-9 LIJINSKY, William & Reuber, M.D.
Transnitrosation by nitrosamines *in vivo*
- P-10 GROENEN, P.J., Iutin, J.B., Dhont, J.H., de Cock-Bethbeder,
H.W., Prins, L.A. & Vreeken, J.W.
Formation of volatile *N*-nitrosamines from food products,
especially fish, under simulated gastric conditions
- P-11 ARCHER, Michael C., Lee, E.-j. & Bruce, R.
Analysis and formation of nitrosamines in the human intestine
- (P-12) SPIEGELHALDER, B., Eisenbrand, G. & Preussmann, R.
Urinary excretion of nitrosamines
- P-13 NEBELIN, Eike, Autrup, H., Christensen, B. & Blomqvist, G.
Detection of metabolites of *N*-nitrosopyrrolidine and
N-nitrosomethylamine in cultures of human bladder
epithelial cells of normal origin

Posters related to Occurrence

- P-14 FAZIO, Thomas & Haverty, D.C.
Volatile *N*-nitrosamines in direct flame dried processed foods
- P-15 KARLOWSKI, Kazimierz
Occurrence of *N*-nitrosamines in food products
- P-16 ABDJANOV, M.M. & Sharmanov, T.Sh.
Nitrosamines and their precursors in some Kazakh foodstuffs
- P-17 GOLOVNJA, R.V., Zlunavleva, I.L., Terenina, M.B.,
Nesmejanov, A.N., Vlasenko, N.L. & Il'nitsky, A.P.
Amines in soil as possible precursors of *N*-nitroso compounds

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17.10

0-8 WISHNOK, John S. & Woolworth, V.S.

The effects of molecular structure on the passage
of nitrosamines through animal membranes

18.00

WELCOMING MIXER AT KOMABA EMINENCE

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11.40

0-16 HOFFMANN, Dietrich, Brunnemann, K.D., Rivenson, A. & Hecht, S.S.

N-Nitrosodiethanolamine: analysis, formation in tobacco products and carcinogenicity in Syrian golden hamsters

12:00

LUNCH

POSTER DISPLAY AND PLENARY DISCUSSION

Chairman: S. R. Tannenbaum

Rapporteurs: S.S. Hecht, B. Spiegelhalder

14.40-16.10 Poster presentation

16.10 COFFEE BREAK

16.30-18.00 Discussion on posters

Posters related to Chemistry and Formation:

P-1 CIALLIS, B.C. & Li, B.F.

Formation of *N*-nitrosamines and *N*-nitramines by photolysis

P-2 HANSEN, Thomsen J., Croisy, A.F. & Keefer, L.K.

N-Nitrosation of secondary amines by nitric oxide
via the "Drago Complex"

P-3 IMIZAWA, Harumi

Effect of alkalization on the nitrosation reaction
occurring in a dimethylamine-nitrite mixture especially
in the presence of reductants

P-4 LOEPPKY, Richard N. & Outram, J.O.

A biochemical retroaldol cleavage of β -hydroxynitrosamines

P-5 KODAMA, M., Saito, H. & Yamazumi, Z.

Formation of alkylureas in the environment

P-6 MANGINO, M.M., Libbey, L.M. & Scanlan, R.A.

Nitrosation of *N*-methyltyramine and *N*-methyl-3-aminomethylindole, two barley malt alkaloids

P-7 ITOZUMI, M., Kusumoto, S., Kimura, T., Nakamura, A. & Nakajima, T.

Formation of nitrosodimethylamine by NO_x exposure in rats
and rabbits pretreated with aminopyrine

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WEDNESDAY 30 SEPTEMBER

OCCURRENCE IN ENVIRONMENTAL AND BIOLOGICAL SAMPLES

Chairman: T. Fazio

0.49 μg/m³

- (09.00) 0-17 BOGOWSKI, P., Kann, J., Rooma, M., Tauts, O. & Uiba, J.
Research on environmental *N*-nitroso compounds in the USSR
- (09.20) 0-18 KAWABATA, T., Matsui, M., Ishibashi, T., Hamano, M. & Ito, M.
Formation of *N*-nitroso compounds during cooking of Japanese food
- (09.40) 0-19 TOMITA, I., Nakamura, Y. & Tanaka, H.
Mutagenicity of various Japanese foodstuffs treated with nitrite
- (10.00) 0-20 van BROEKHOVEN, L.W. & Davies, J.A.R.
N-Nitrosamines in grass silage
- 10.20 COFFEE BREAK

Chairman: T. Kawabata

- (10.40) 0-21 SPIEGELHALDER, B. & Preussmann, R.
Nitrosamines and rubber
- (11.00) 0-22 FAJEN, John, Rounbehler, D.P. & Fine, D.H.
Summary report on *N*-nitrosamines in the factory environment
- (11.20) 0-23 WALTERS, C.E., Smith, P.L.R., Reed, P.I., Haines, K.
& House, F.R.
N-Nitroso compounds in gastric juice and their relationship to gastroduodenal disease
- (11.40) 0-24 ELEN, G., Schuller, P.L., Bruijns, E., Froeling, P.G.A.M.
& Baadenhuijsen, H.
Volatile *N*-nitrosamines, nitrate and nitrite in urine and saliva of healthy volunteers after administration of large amounts of nitrate

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12.00 0-25 FINE, D.H., Challis, B.C., Hartman, P. & Van Ryzin, J.

Comparison of human exposure and risk assessment of nitrosamines from endogenous and exogenous sources.

12.20 LUNCH

POSTER DISPLAY AND PLENARY DISCUSSION

Chairman: W. Lijinsky

Rapporteurs: P. Groenen, M. Börzsönyi

14.00 -15.30 Poster presentation

15.30 COFFEE BREAK

15.50 -17.20 Discussion on posters

Posters related to Analysis:

P-18 ROUNDBRIDGE, D.P. & Fine, D.H.

Specific detection of amines and other nitrogen containing compounds with a modified TGA analyzer

Posters related to Safety:

P-19 WALTERS, C.L.

Destruction of *N*-nitrosamides in laboratory waste

P-20 CASTEGNARO, Marcel, Michelon, J. & Walker, E.A.

Some detoxification methods for nitrosamine contaminated wastes

P-21 SANSONE, E.B., Lunn, G., Jonas, L.A. & Keefer, H.K.

Approaches to hazard control in the carcinogenesis laboratory: *N*-nitroso compounds

P-22 JÄRPGENSEN, K.A. & Kawesson, S.O.

Destruction of *N*-nitrosamides with a P,S-reagent and attempts to nitrosate thioamides

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Posters related to Biological Effects

- P-23 PÖBBELTROED, M.B., Deboyser, D., Goethals, F. & Krack, G.
Biochemical mechanisms of toxicity of nitrosopyrrolidine
on isolated hepatocytes
- P-24 EISENBRAND, G., Heydt, G. & Preussmann, R.
Metabolism of isomeric *N*-nitroso-*N*-methylaminopyridines
by rat liver microsomes
- P-25 JANOWSKI, C., Gottfried, J., Pool, B.L., Eisenbrand, G.
& Preussmann, R.
In vitro metabolism of fluorinated dialkylnitrosamines
- P-26 SAKAI, Ayako & Tanimura, A.
Mutagenicity of *N*-nitroso compounds formed by the
reaction of sulpyrine with nitrite; effect of cysteine
and its derivatives
- P-27 INUI, Naomichi, Nishi, Y. & Tanimura, A.
Induction of 8-azaguanine-resistant mutation and neoplastic
transformation of hamster embryonic cells by coadministration
of sodium nitrite and aminopyrine
- P-28 RAO, T.K., Epler, J.L. & Eijinsky, W.
Structure activity studies with *N*-nitrosamines using
Salmonella typhimurium and *Escherichia coli*
- (P-29) PREUSSMANN, R., Häbs, M., Schmähl, D. & Eisenbrand, G.
Dose-response study on the carcinogenicity of *N*-nitroso-
diethanolamine (NDETA) in male Sprague-Dawley rats
- P-30 KONISHI, Yoichi, Denda, A., Takahashi, S., Maruyama, H.,
Yokose, Y., Mori, Y., Matsui, M. & Toyoshi, K.
Organotropic effect of N-bis(2-hydroxypropyl)nitrosamine:
production of lung adenocarcinoma by a single intra-
peritoneal injection in rats
- (P-31) HOFFMANN, Dietrich, Adams, J.D., Brunnemann, K.D., Rivenson,
A. & Hecht, S.S.
Tobacco specific nitrosamines: occurrence and bioassays

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- P-32 OIGAKI, Hiroko, Kawachi, T., Matsukura, N., Morino, K.
& Sugimura, T.
Genetic control of sensitivity of gastrocarcinogenesis
in rats by *N*-methyl-*N'*-nitro-*N*-nitrosoguanidine
- P-33 FONG, L.Y.Y., Lee, J.S.K., Chan, W.C. & Newberne, P.M.
Zinc deficiency and the induction of esophageal tumors
in rats by methylbenzylamine and sodium nitrite
- P-34 McCOY, G. David, Katayama, S., Young, R., Wyatt, M. & Hecht, S.S.
Influence of chronic ethanol consumption on the metabolism
and carcinogenicity of tobacco related nitrosamines
- P-35 BÖRZSÖNYI, Matias, Tórok, G., Pinter, A., Surjan, A.,
Csik, M. & Bar, V.
Inhibition of the carcinogenic effect of nitrosomorpholine
formed *in vivo* by an antioxidant

EVENING

BANQUET

T S OSSENDE

FEB 28 1981

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THURSDAY 1 OCTOBER

BIOLOGICAL EFFECTS, CARCINOGENIC

Chairman: R. Preussmann

- (09.00) 0-26 TANAKA, Akira & Watanabe, M.
Metabolism of 1-propyl-1-nitrosourea (PNU) in rats
- (09.20) 0-27 SINGER, George H., Lijinsky, W., Buettner, L. & McClusky, G.A.
Metabolism of nitrosomethyl-*n*-alkylamines in Fischer rats
- (09.40) 0-28 HEGDORN, S.S., Young, R., Rivenson, A. & Hoffmann, D.
On the metabolic activation of *N*-nitrosomorpholine and
*N*¹-nitrosornicotine: effects of deuterium substitution X
- (10.00) 0-29 FIO, Nobuyuki, Fukushima, S., Tsuda, H., Shirai, T. & Arai, M.
Dose-response changes in rats treated with *N*-nitroso compounds
- (10.20) 0-30 MAEKAWA, A., Takahashi, M., Kurokawa, Y., Kokubo, T., Ogiu, T.,
Mochizuki, M., Anjo, T., Okada, M. & the late Odashima, S.
Carcinogenicity of α -oxidized nitrosamines (α -acetoxy,
 α -hydroperoxy, and α -oxo nitrosamines) in P-344 rats
- 10.40 COFFEE BREAK

Chairman: P. Bogovski

- (11.00) 0-31 LIJINSKY, William X
Chemical structural effects in carcinogenesis by nitrosamines
- (11.20) 0-32 GRICIUTE, Laima, Castegnaro, M. & Béréziat, J.C.
Influence of ethyl alcohol on the carcinogenic activity
of *N*-nitrosodi-*n*-propylamine (NDPA)
- (11.40) 0-33 SCHWINSBERG, E., Weissenberger, I. & Burkle, V.
Effect of disulfiram on the carcinogenicity of nitrosamines

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12.00 0-34 SHARANOV, T.Sh. & Aidjanov, M.M.

Effect of amino acids imbalance and ascorbic acid deficiency
on carcinogenic action of *N*-nitrosopiperidine in guinea pigs

12.20 LUNCH

BIOLOGICAL EFFECTS, GENOTOXIC

Chairmen: *T. Sugimura, T. Kawachi*

(14.00) 0-35 SHUKER, D., Pincek, B. & Tannenbaum, S.R.

N-Nitrosamides of natural origin

(14.20) 0-36 WAKABAYASHI, Keiji, Nagao, Mi, Kawachi, T. & Sugimura, T.

Mechanism of appearance of mutagenicity of
diphenylnitrosamine with norharman

(14.40) 0-37 NISHI, Tomoe, Obara, Y. & Hayatsu, H.

A sensitive assay for mutagenic activity of *N*-nitrosamines
and its use for detection of modulators of the mutagenicity

(15.00) 0-38 BARTSCH, Helmut, Milaville, C., Terracini, B., Tomatis, L.,
Brun, G. & Dodet, B.

Quantitative comparisons between carcinogenicity,
mutagenicity and electrophilicity of direct-acting
N-nitroso compounds and other alkylating agents

15.20 CLOSING ADDRESS - *T. Sugimura*

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